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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,139	01/14/2004	Peter Ashwood Smith	111-157	3823
34645 7590 06/08/2009 Anderson Gorecki & Manaras, LLP Attn: John C. Gorecki P.O BOX 553 CARLISLE, MA 01741			EXAMINER PARK, JUNG H	
			ART UNIT 2419	PAPER NUMBER
			NOTIFICATION DATE 06/08/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/757,139

**Applicant(s)**

SMITH, PETER ASHWOOD

**Examiner**

JUNG PARK

**Art Unit**

2419

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 7-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 7-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Remark***

1. This communication is considered fully responsive to the Amendment filed on 03/10/09.
  - a. Independent claim 1 has been changed and claims 2 and 3 have been canceled.
  - b. Independent claims 7 and 16 have not been changed.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
3. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 2004/0174825, "Li") in view of Kwiatkowski et al. (US 2004/0120355, "Kwiatkowski").

**Regarding claim 7**, Li discloses the method of limiting the dissemination of LSA within a predefined range such that not every router/node receives every LSA (see a predetermined distance, see ¶10-11, ¶43, and ¶45) and selectively forwarding the link state advertisement on the network by evaluating link state information contained in the LSAs (forwarding or preventing re-flooding of the at least one LSA based on the predetermined range, i.e., within range or out of range, see ¶11) using OSPF protocol (¶6), but does not explicitly disclose the limitations of "a plurality of OSPF routers interconnected in a network and belong to an OSPF area."

However, Kwiatkowski discloses "a plurality of OSPF routers interconnected in a network (OSPF routers, see fig.1 and ¶.16) and belong to an OSPF area (multiple areas, see ¶.17)." Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to apply the OPSF area configuration method disclosed by Kwiatkowski into the LSA flooding method within a predefined distance of Li in order to preventing over flooding of LSA messages to every router and divide a network into multiple internetworks or areas for dynamic network routing (Kwiatkowski, fig.1 and ¶.17-18)."

Regarding claim 8, Li discloses, "an ad-hoc wireless mesh network (ad-hoc, see ¶.3)", but lacks what Kwiatkowski discloses, "the plurality of OSPF routers are interconnected (fig.1 and ¶.17)." This claim is rejected for the same reasons and motivation set forth in the rejection of claim 7.

Regarding claim 9, Li discloses, "wherein the network is configured such that LSAs are disseminated only a predefined distance (¶.43), but lacks what Kwiatkowski discloses, "within the OSPF area (¶.17)." This claim is rejected for the same reasons and motivation set forth in the rejection of claim 7.

Regarding claim 10, Li lacks what Kwiatkowski discloses, "wherein a subset of the OSPF routers are focal nodes (border nodes in fig.1)." This claim is rejected for the same reasons and motivation set forth in the rejection of claim 7.

Regarding claim 11, it is a claim corresponding to claim 9 and is therefore rejected for the similar reasons set forth in the rejection of claim 9.

Regarding claim 12, Li lacks what Kwiatkowski discloses, "wherein the predetermined distance is selected such that each LSA is received by at least two focal nodes (106 & 107 as shown in fig.1)." This claim is rejected for the same reasons and motivation set forth in the rejection of claim 7.

Regarding claim 13, Li lacks what Kwiatkowski discloses, "wherein nodes on the network other than focal nodes are configured to maintain a routing table containing information obtained from LSAs, the routing table containing information associated with at least two focal nodes (routing table ...topology, see ¶1.14)." This claim is rejected for the same reasons and motivation set forth in the rejection of claim 7.

Regarding claim 14, Li lacks what Kwiatkowski discloses, "wherein the focal nodes are area border routers to an OSPF backbone area (106 & 107 as shown in fig.1)." Therefore, this claim is rejected with the similar reasons and motivation set forth in the rejection of claim 7.

Regarding claim 15, Li discloses, "configured to disseminate link state information for nodes in their local area, their local area being defined as that portion of the network from which the focal nodes receive LSAs (¶1.43 and ¶1.45)."

4. Claims 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Zhu et al. (US 2007/0053300, "Zhu").

**Regarding claim 16**, Li discloses the limitations "inspect a link state advertisement received from a network (receive LSA from a node in the network, see fig.1-3 and ¶.10), ascertain link state information from the link state advertisement (determine a type of LSA and then re-flooding, see ¶.10), determine a relevance of the link state information (determine a type of LSA based on the flooding status and re-flooding the packet based on the type of LSA, see ¶.10-11); and selectively drop the link state advertisement if the link state information is not relevant (forwarding or preventing re-flooding of the at least one LSA based on the predetermined range, i.e., within range or out of range, see ¶.11)."

Li lacks what Zhu discloses "ports interconnected by a switch fabric to enable the network node to communicate on the network (Zhu, ports of switch fabric in 504 fig.5 and ¶.88) and control logic (Zhu, logic in ¶.13)." The switch fabric is an interconnect architecture used by a switching device, which redirects the data coming in on one of its ports out to another of its ports. The word "fabric" comes from the resulting cross-crossed lines when all the inputs on a switch with hundreds of ports are connected to all possible outputs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to apply the switch fabric taught by Zhu into the LSA advertisement method of Ho in order to provide connectivity among control module and some other modules for LSA flooding (Zhu, ¶.88 and Ho, ¶.10-11).

Regarding claim 18, Li discloses, "wherein the step of determining includes determining a sum of link costs from the link state information (TTL is a number of hops, see ¶.45)."

Regarding claim 19, Li discloses, "further comprising a routing table (database, ¶.2), and wherein the logic further configured to update information in the routing table (update, see ¶.2) from link state information contained in the link state advertisement (LSA, see ¶.2) if the link state information is determined to be relevant (¶.34-35)."

Regarding claim 20, Li discloses, " further comprising a routing table (database, ¶.2) and wherein the control logic is further configured to update information in the routing table from link state information contained in the link state advertisement (update & LSA, see ¶.2), and wherein the control logic is configured to selectively drop the link state advertisement if the link state information contained in the link state advertisement is not likely to be relevant to another router on the network (preventing re-flooding of the at least one LSA based on the predetermined range, i.e., out of range, see ¶.10-12; using LSA status, see ¶.43 and 45)."

### ***Response to Arguments***

5. Applicant's arguments filed 03/10/09 have been fully considered but they are not persuasive.

At pages 6-8, applicant's arguments with respect to the amended claim 1 have fully considered and claim 1 is allowed.

At page 9, with respect to 7, applicant argues that Li fails to disclose "selectively forwarding LSAs based on the relevance of the link state information contained in the LSA."

In reply, Li discloses the method of determining a type of Link State Advertisements (LSA) based on the flooding status included in link state information in the LSA and re-flooding the packet based on type of LSA determined in the previous step as described in ¶.10. The Examiner interprets that any information included in the Link State Advertisement is related with link state information. Further, Li discloses that a bit in the flooding status indicates that at least one LSA is indented for distribution to other nodes and prevents re-flooding of the at least LSA based on the predetermined range of other nodes in the network as described in ¶.11-12. That is, Li discloses the method of selectively forwarding or preventing re-flooding based on the flooding status. Therefore, the examiner respectively disagrees.

At page 10, with respect to 16, applicant argues that Li fails to disclose "determine a relevance of the link state information."

In reply, Li discloses the method of determining a type of LSA based on the flooding status and re-flooding the packet based on the type of LSA as described in paragraphs 10-12 and in the response for arguments in claim 7. Therefore, the examiner respectively disagrees.

***Allowable Subject Matter***

6. Claim 1 is allowed.



***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Art Unit: 2419

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jung Park/

Examiner, Art Unit 2419